

IN THE CLAIMS

1. (currently amended) An electronic transmission system, comprising:

    a first electronic transmission apparatus; and  
    a second electronic transmission apparatus;  
    said first electronic transmission apparatus including:

        first communication means, connected to a signal transmission line, for receiving a first encrypted signal from a transmitting electronic device over the signal transmission line,

        first authentication process means for executing a first authentication process with by which the transmitting electronic device authenticates said electronic transmission system via said first communication means and the signal transmission line, and for receiving first key information and second key information from the transmitting electronic device via said first communication means and the signal transmission line if the transmitting electronic device determines that said first electronic transmission apparatus is an authorized device,

        first decryption means for decrypting the first encrypted signal using the first key information, the first key information being supplied by said first authentication process means—when the first authentication process determines that said first electronic transmission apparatus is an authorized device,

        first processing means for processing the first decrypted signal, said first processing means including a first section operable to at least one of display or record the first decrypted signal, second

~~communication means connected to the signal transmission line, said first authentication process means executing a second authentication process with said second electronic transmission apparatus via said second communication means and the signal transmission line,~~

~~first encryption means for re-encrypting the first decrypted signal using the second key information, the second key information being supplied by said first authentication process means, and~~

~~first signal switching means for receiving selecting, for output to said second communication means, one of the first encrypted signal and the first re-encrypted signal based on a first selection signal provided by said first authentication process means and which indicates whether a display priority mode or a legal protect priority mode is set, the first selection signal indicating that the display priority mode is set if said second electronic transmission apparatus does not have a recording capability, and the first selection signal indicating that the legal protect priority mode is set if said second electronic transmission apparatus has the recording capability,~~

~~said first signal switching means selecting the first encrypted signal for output to said second electronic transmission apparatus if the display priority mode is set and selecting the first re-encrypted signal for output to said second electronic transmission apparatus if the legal protect priority mode is set, the first encrypted signal being supplied to said first signal switching means by said first communication means, the first re-encrypted signal being supplied to said first signal switching means by~~

said first encryption means, ~~said first authentication process means supplying a selected one of the first key information and the second key information to said second communication means when the second authentication process determines that said second communication means is an authorized device, the first key information being selected when said first signal switching means selects the first encrypted signal and the second key information being selected when first said signal switching means selects the first re-encrypted signal, and~~

    said second communication means, connected to the signal transmission line, for transmitting the selected one of the first key information and the second key information and the selected one of the first encrypted signal and the first re-encrypted signal over the signal transmission line to said second electronic transmission apparatus when the a second authentication process determines that said second electronic transmission apparatus is an authorized device;

    said second electronic transmission apparatus including:

    third communication means, connected to the signal transmission line, for receiving a second encrypted signal from said first electronic transmission apparatus over the signal transmission line, the second encrypted signal being the selected one of the first encrypted signal and the first re-encrypted signal,

    second authentication process means for executing the second authentication process with either the transmitting electronic device or said first

electronic transmission apparatus via said third communication means and the signal transmission line, and for receiving the selected one of the first third key information and the second further key information from either the transmitting electronic device or said first electronic transmission apparatus via said third communication means and the signal transmission line, the further key information being the first key information if the second encrypted signal is the first encrypted signal and being the second key information if the second encrypted signal is the first re-encrypted signal,

second decryption means for decrypting the second encrypted signal using the received further key information, — the received key information being supplied by said second authentication process means when the second authentication process determines that said second electronic transmission apparatus is an authorized device;

second processing means for processing the second decrypted signal, said second processing means including a second section operable to at least one of display or record the second decrypted signal, ;fourth communication means connected to the signal transmission line, said second authentication process means executing a third authentication process with a receiving electronic device via said fourth communication means and the signal transmission line;

second encryption means for re-encrypting the second decrypted signal using the third key information, the third key information being supplied by said second authentication process means, ; and

second signal switching means for receiving selecting, for output to said fourth communication means, one of the second encrypted signal and the second re-encrypted signal based on a second selection signal provided by said second authentication process means and which indicates whether the display priority mode or the legal protect priority mode is set, the display priority mode being set if the receiving electronic device does not have a recording capability, the display priority mode being set if the receiving electronic device has the recording capability,

said second signal switching means selecting the second encrypted signal for output to said receiving electronic device if the display priority mode is set and selecting the second re-encrypted signal for output to said receiving electronic device if the legal protect priority mode is set, the second encrypted signal being supplied to said second signal switching means by said third communication means, the second re-encrypted signal being supplied to said second signal switching means by said second encryption means, said second authentication process means supplying a selected one of the received key information and the third key information to said fourth second communication means when the third authentication process determines that the receiving electronic device is an authorized device, the received key information being selected when said second signal switching means selects the second encrypted signal and the third key information being selected when said second signal switching means selects the second re-encrypted signal; and

said fourth communication means, connected to the signal transmission line, for transmitting the selected one of the received key information and the third key information and the selected one of the second encrypted signal and the second re-encrypted signal over the signal transmission line to the receiving electronic device when the—a third authentication process determines that the receiving electronic device is an authorized device, the third authentication process being carried out between the receiving electronic device and either the transmitting electronic device or said second authentication process means.

2. - 4. (cancelled)

5. (previously presented) The electronic transmission apparatus according to claim 1, wherein the first selection signal is supplied by the transmitting electronic device via said first communication means and the signal transmission line.

6. (previously presented) The electronic transmission apparatus according to claim 1, further comprising:

operation input means for providing a user-inputted signal for controlling the switching operation of one or more of said first signal switching means and said second signal switching means.

7. (currently amended) A signal transmission method, comprising:

executing a first authentication process between a transmitting electronic device and a first electronic transmission apparatus over a signal transmission line;

receiving, at the first electronic transmission apparatus, a first encrypted signal from the transmitting electronic device over the signal transmission line;

receiving, at the first electronic transmission apparatus, first key information and second key information from the transmitting electronic device over the signal transmission line ~~when the first authentication process if the transmitting electronic device determines that the first electronic transmission apparatus is an authorized device based on the first authentication process;~~

decrypting, at the first electronic transmission apparatus, the first encrypted signal using the first key information ~~when the first authentication process determines that the electronic transmission apparatus is an authorized device;~~

executing, at the first electronic transmission apparatus, ~~a first process using the decrypted signal, the first process including at least one of~~ displaying or recording the first decrypted signal;

executing a second authentication process between ~~the first electronic transmission apparatus and a second electronic transmission apparatus and either the transmitting electronic device or the first electronic transmission apparatus~~ over the signal transmission line;

re-encrypting, at the first electronic transmission apparatus, the first decrypted signal using the second key information;

setting a display priority mode if a second electronic transmission apparatus does not have a recording capability and setting a legal protect priority mode if the second electronic transmission apparatus has the recording capability;

selecting, at the first electronic transmission apparatus for transmission to the second electronic transmission apparatus, one of the first encrypted signal if the display priority mode is set or and the first

re-encrypted signal if the legal protect priority mode is set for transmission to the second electronic transmission apparatus; selecting, at the first electronic transmission apparatus, one of the first key information and the second key information for transmission to the second electronic transmission apparatus, the first key information being selected when the selected one of the first encrypted signal and the first re-encrypted signal is the first encrypted signal, the second key information being selected when the selected one of the first encrypted signal and the first re-encrypted signal is the first re-encrypted signal; and

transmitting, from the first electronic transmission apparatus to the second electronic transmission apparatus, the selected one of the first encrypted signal and the first re-encrypted signal and the selected one of the first key information and the second key information over the signal transmission line to the second electronic transmission apparatus when if it is determined using the second authentication process determines that the second electronic transmission apparatus is an authorized device;

receiving, at the second electronic transmission apparatus, a second encrypted signal from the first electronic transmission apparatus over the signal transmission line, the second encrypted signal being the selected one of the first encrypted signal and the first re-encrypted signal;

receiving, at the second electronic transmission apparatus if it is determined using the second authentication process that the second electronic transmission apparatus is an authorized device, the selected one of the first third key information and the second further key information from either the transmitting

electronic device or the first electronic transmission apparatus, over the signal transmission line when the second authentication process determines that the second electronic transmission apparatus is an authorized device  
the further key information being the first key information if the second encrypted signal is the first encrypted signal and being the second key information if the second encrypted signal is the first re-encrypted signal;

decrypting, at the second electronic transmission apparatus, the second encrypted signal using the received further key information when if the second authentication process determines that the second electronic transmission apparatus is an authorized device;

executing, at the second electronic transmission apparatus, a second process using the second decrypted signal, the second process including at least one of displaying or recording the second decrypted signal;

executing a third authentication process with between a receiving electronic device and either the transmitting electronic device or the second electronic transmission apparatus over the signal transmission line;

re-encrypting, at the second electronic transmission apparatus, the second decrypted signal using the third key information;

setting the display priority mode if the receiving electronic device does not have a recording capability and setting the legal protect priority mode if the receiving electronic device has the recording capability;

selecting, one of at the second electronic transmission apparatus for transmission to the receiving electronic device, the second encrypted signal if the display priority mode is set or and the second re-encrypted

signal if the legal protect priority mode is set for transmission to the receiving electronic device; selecting one of the received key information and the third key information for transmission to the receiving electronic device, the received key information being selected when the selected one of the second encrypted signal and the second re-encrypted signal is the second encrypted signal, the third key information being selected when the selected one of the second encrypted signal and the second re-encrypted signal is the second re-encrypted signal, and

transmitting the selected one of the second encrypted signal and the second re-encrypted signal and the selected one of the received key information and the third key information to the receiving electronic device via the signal transmission line when the third authentication process determines that the receiving electronic device is an authorized device.

8. - 9. (cancelled)

10. (previously presented) The signal transmission method according to claim 7, wherein said step of selecting one of the first encrypted signal and the first re-encrypted signal is executed based on a signal received from the transmitting electronic device via the signal transmission line.

11. (previously presented) The signal transmission method according to claim 7, wherein said step of selecting one of the first encrypted signal and the first re-encrypted signal is executed based on a user-inputted signal.

12. - 17. (cancelled)

18. (previously presented) The signal transmission method according to claim 7, wherein said step of selecting one of the second encrypted signal and the second re-encrypted signal is executed based on a user-inputted signal.